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MILK PRODUCTION COSTS.

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The extreme rise in prices during the Civil War period was due chiefly to the fact that they were calculated in inflated paper currency. Similarly, the high prices now are due chiefly to an increased supply of money. Prices of dairy products are high primarily because money is relatively more plentiful than before the war, and not primarily because dairymen or dealers have over-organized, or have become less efficient, or have profiteered; as many persons who use milk and butter are unfortunately led to believe. Feed, labor and cows are high-priced for the same reason. Index figures show that these things, which are the major costs in the dairy business, have increased as much as the prices paid producers for milk and butter. There is no reason for consumers to fear that lately the farmer has been receiving double the former price for milk produced at costs as low as heretofore. Of course, much of the labor in producing milk is by the farmer and his family. But, to be as well-off as before the war they should now receive twice as much per hour as formerly, because money is worth only half as much.

PRODUCTION COSTS IN HERKIMER COUNTY, NEW YORK.

During the past summer the writer obtained cost of milk production records in Herkimer County, New York, for the year ending May 1, 1919. Herkimer County formerly was a large center of cheese production, but now some of the milk is shipped to New York City, and most of the remainder condensed, although some cheese is still made during the surplus period. The tendency is to shift to a more intensive type of dairying. A statement of costs for 40 farms appears in Table 1. These farms averaged 142 acres, 70 of which were in pasture land held at an average value of $41 per acre. There were 21.5 cows per farm with an average value of $132 per head. Production per cow was 4,808 pounds of which 33 per cent. was produced during the six winter months October to March. The average yield and the season of production as well as the amount of grain used per cow indicate the leaning toward the summer system.

TABLE 1.—*Cost of producing milk—Herkimer county farms, year ending May 1, 1919.*

Number of farms	40
Number of cows	860
Acres per farm	142
Acres of pasture per farm	70
Acres of pasture per cow and accompanying stock	3.24
Value of pasture land per acre.	$41
Cows per farm	21.5
Milk produced	41,346 cwt.
Milk produced per cow,	4,808 pounds
Milk sold	38,457 cwt.
Milk sold per cow	4,472 pounds
Percent of milk produced April–September	67
October–March	33
Average value of cows	$132

Value of grain per ton	$61.28
Value of silage per ton	7.00
Value of dry forage per ton.	17.84
Value of manure per ton	2.63
Average human labor rate, 32.4 cents per hour.	
Average horse labor rate, 19.6 cents per hour.	
Cost of milk per 100 pounds.	3.70
Average price received per ..100 pounds	2.97
Loss per 100 pounds	.73

	Amount.		Value.	
	Total.	Per Cow.	Total.	Per Cow.
Charges:				
Grain and other concentrates	833,000 lbs.	969 lbs.	$ 25,526	$ 29.68
Silage and other succulent feed	1,340.9 tons	3,118 lbs.	9,034	10.51
Hay and other dry forage	2,127.4 tons	4,947 lbs.	37,951	44.13
Pasture			9,304	10.82
Bedding			928	1.08
Human labor	165,287 hrs.	192 hrs.	53,495	62.20
Horse labor	37,868 hrs.	44 hrs.	7,406	8.61
Use of buildings			5,011	5.83
Use of equipment			1,808	2.10
Depreciation on cows			7,652	8.90
Interest on cows	$113,735 value		6,824	7.94
Interest on feed and supplies			1,460	1.70
Bull service			3,246	3.77
Miscellaneous			3,778	4.39
Total charges			$173,423	$201.66
Credits:				
Milk and its products used on the farm and milk products sold			$ 9,421	$ 10.96
Calves and calf hides			4,025	4.68
Manure	6,597 tons	7.67 tons	17,350	20.17
Miscellaneous			330	.38
Total returns except milk sold wholesale			$ 31,126	$ 36.19
Difference = cost of milk sold and delivered at station			$142,297	$165.47
Milk sold wholesale	38,457 cwt.		114,284	132.89
Loss on milk sold wholesale			$ 28,013	$ 32.58

Table 2.—*Comparison by regions of factors for studying the dairy enterprise.*

State County Year Ending City for which Milk was Produced	New York, Herkimer, May 1, 1919, New York and Herkimer.	New York, Broome, May 1, 1915, New York and Binghamton (Summer Dairies	New York, Broome, May 1, 1915. New York and Binghampton (Winter Dairies).	Investigations in Michigan, New York, Connecticut and New Jersey.
Number of farms	40	41	56	444
Number of cows	860	503	798	8,810
Size of business:				
1. Number of cows per farm	21.5	12.3	14.2	19.8
2. Hundredweight of milk produced per farm	1,034	645	830	1,283
Labor:				
3. Hours of human labor in milk hauling per cow	192	23	16	195.8
4. Hours of other human labor per cow		163	183	
5. Total human hours per hundred pounds of milk produced:				
Pasture period		2.44	2.84	
Winter period		5.16	3.77	
Year	4.00	3.54	3.42	3.02
6. Hours of horse labor per cow	44	39.1	29.8	45.3
Season of production:				
7. Percent of milk produced in six months:				
April–September	67	71	48	50.3
October–March	33	29	52	49.7
Production:				
8. Pounds of milk produced per cow.	4,808	5,255	5,822	6,481
9. Test of milk		4.1	4.0	3.8
10. Pounds of butterfat produced per cow		215	234	244
Feeding per 100 pounds of milk in year:				
11. Grain and other concentrates	20.2	21.7	28.6	33.79
12. Silage	64.9	24.1	96.1	92.2
13. Other succulent feed		13.9	14-7	8.3
14. Hay	102.9	67.2	62.3	43.3
15. Other dry forage		17.2	11.0	10.8
Per 100 pounds of milk in winter				
16. Grain and other concentrates		47.5	42.6	
17. Silage		59.9	151.9	
18. Other succulent feed		10.3	10.2	
19. Dry forage		209.1	118.5	
Per cent of total net cost of milk represented by grain, succulent feed, dry forage and human labor	83.1	78.6	84.9	79.7

* Data for all regions except Broome and Herkimer counties, N. Y., were taken from The Production, Distribution, and Food Value of Milk, a report to Herbert C. Hoover by the Milk Committee of the U. S. Food Administration. Data for Broome and Herkimer counties were obtained by the Dept. of Farm Management of the New York State College of Agriculture.

Grain cost $61.28 per ton; silage was valued at $7 per ton; dry forage at $17.84, and manure at $2.63 per ton. The wages asked by the dairymen averaged 32.4 cents per hour for human time and 19.6 cents per hour for horse time. These are not fancy wages, when drivers of milk wagons in New York City are asking $47 a week. And yet these producers received not 32.4 cents, but instead 15.4 cents per hour of human time after all other costs were met. It is not difficult to see why mechanical milkers or other investments requiring savings are not introduced more rapidly on dairy farms.

How the important factors concerning size of business, labor, season of production, production and feeding for this region compare with other regions is shown in Table 2.

These dairymen have slightly larger businesses than the average dairymen—larger farms, more cows per farm, more cans of milk sold in a year. The labor requirements are about average per cow. One third of the milk is produced in winter, two thirds in summer. Some herds produce three times as much in summer as in winter, others about equal amounts in the two periods. Liberal allowances of hay were used, partly because of the high price of grain, although the common practice is to use less than the average amount of grain. Previous studies have indicated that this extensive system is the cheapest way to produce milk, but in this study only eight farms out of forty, or 20 per cent., showed a profit on cows. The average loss was $33 per cow.

In calculating costs farm-grown feed was charged at its selling value on the farm. Time of the farmer and his family was included at the estimated farm wages necessary to secure other equally efficient to do the work. Hired labor was charged at cost. Interest has been included on the investment in cows and in feed and supplies held for them at six per cent., and on buildings, pasture land, and equipment at five per cent. A common question that arises whenever results of cost studies are stated is, that if the actual loss is equal to the apparent loss, how do such producers remain in business. The answer is that they do one or more of the following things: (1) accept lower wages than the rate at which their time is charged, (2) accept less than farm value for roughage used, (3) accept a lower rate of interest on their investment than the rate charged.

If these farmers received interest on their investment, the farm value of farm grown roughage and all other costs, they then received 15.4 cents per hour for human labor.

If they received 32.4 cents per hour for all human labor and interest on their investment, they then received 40 per cent. of the value of hay and other roughage used.

If no interest is charged on the investment in cows or on land, buildings, equipment, feed and supplies used by cows, and if the farmers received 32.4 cents per hour for human labor, they would still receive only approximately 74 per cent. of the market value of hay and other roughage used.

Low rewards for labor on the farm do not encourage the most efficient and energetic to remain. In the past ten years too many farm boys who would have made good farmers have gone into other higher paying industries, because they foresaw what wages they might expect in farming. The results are apparent, many farms operated by men and women of advanced age; many others for sale. When enough money is allowed to reach producers to reward them as well for time and efficiency as wages paid in other industries requiring equal skill and investment, the business of farming will attract enough of the desirable type of farm boys to properly maintain our agriculture in regions where it is now receding. The pay of farmers should permit them to have modern conveniences for health, education, comfort and transportation. Such conveniences cannot be provided with sufficient rapidity from the savings of low wages, when prices paid for them are based upon labor receiving high wages.

It is too easy to accuse dairymen of inefficiency. The usual methods of attacking the dairymen are to condemn his animals and his methods of feeding and caring for them, without any regard for the food he is contributing per dollar invested or per hour of time spent. As producers of animal products, dairymen are highly efficient. For each hour spent in milk production operations on these farms, there were sold for city use 23 pounds, or over 10 quarts of milk. After other costs were met, therefore, the labor reward of these producers was about 1.5 cents per quart. These 10 quarts of milk contained approximately 6,750 calories of energy. It is said that from 3,000 to 3,500 calories daily are needed to support an average man at moderate work. The average contribution to the city food supply for each 10 hours of work in producing milk on these farms was 110 quarts of milk containing as much energy as required by 23 working men for a day. The daily contribution per farm was as much energy as 26 men require. This must be recognized as efficient business, and calls for none of the adverse criticism that it has received, and will in the future receive, from those whose chief interest is cheap food in the city. The rewards for such contribution should take account of the present and of the more important future necessity of the service.